

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of: )  
 )  
Expanding Flexible Use of the 3.7 to 4.2 ) GN Docket No. 18-122  
GHz Band )  
 )

**COMMENTS OF  
THE NATIONAL ASSOCIATION OF BROADCASTERS**

The National Association of Broadcasters (NAB)<sup>1</sup> hereby submits these comments in response to the Public Notice issued by the Office of Engineering and Technology and the International and Wireless Bureaus seeking comment for an upcoming Commission report on the feasibility of allowing commercial wireless services to use or share use of the 3.7-4.2 GHz band.<sup>2</sup> Pursuant to the Public Notice’s instructions, NAB briefly summarizes and incorporates by reference the points it has raised in related proceedings.<sup>3</sup>

First, the C-band is extensively used for content distribution. Virtually every U.S. television and radio household relies on C-band satellite operations for content distribution in

---

<sup>1</sup> The National Association of Broadcasters is a nonprofit trade association that advocates on behalf of free local radio and television stations and broadcast networks before Congress, the Federal Communications Commission and other federal agencies, and the courts.

<sup>2</sup> *Office of Engineering and Technology , International, and Wireless Telecommunications Bureaus Seek Comment for Report on the Feasibility of Allowing Commercial Wireles Services, Licensed or Unlicensed, to Use or Share Use of the Frequencies Between 3.7-4.2 GHz*, Public Notice, GN Docket No. 18-122, DA 18-446 (May 1, 2018) (Public Notice).

<sup>3</sup> Public Notice at 1.

some manner.<sup>4</sup> Content providers rely on the C-band to deliver television programming to thousands of MVPD head-ends, over 1,000 broadcast television stations affiliated with national networks, and over-the-top service providers.<sup>5</sup> Radio content also relies heavily on dependable access to the C-band. National Public Radio has stated that the public radio system depends on the C-band, “for reliable distribution of programming to the 475 public radio earth stations that together broadcast public radio programming to 42 million Americans each week.”<sup>6</sup>

Second, the availability of reasonable, practical alternative means of content delivery, such as fiber, are significantly overstated. In many cases, substitute modes of delivery are unavailable or less reliable.<sup>7</sup> Even in those areas where fiber is available, it may not be economically viable.<sup>8</sup>

Third, because of the importance of the C-band, and because of the limited alternatives, the Commission should insist on rigorous technical analysis of specific and detailed proposals before making decisions that will impact tens of millions of radio and television households. The Commission should not assume that technical solutions will appear that will allow incompatible services to share spectrum. NAB reiterates that, as a practical matter, this means the Commission should acknowledge that terrestrial users

---

<sup>4</sup> Comments of the National Association of Broadcasters at 2-4, GN Docket No. 17-183 (Oct. 2, 2017) (NAB Comments).

<sup>5</sup> Comments of the Content Companies at 2, GN Docket No. 17-183 (Oct. 2, 2017).

<sup>6</sup> Letter from Adam Shoemaker to Marlene H. Dortch, GN Docket No. 17-183 (Nov. 8, 2017).

<sup>7</sup> Reply Comments of the National Association of Broadcasters at 2-3, GN Docket No. 17-183 (Nov. 15, 2017); see *also* Comments of the Satellite Industry Association at i, GN Docket No. 17-183 (Oct. 2, 2017) (SIA Comments).

<sup>8</sup> Comments of the American Cable Association at 16, GN Docket No. 17-183 (Oct. 2, 2017).

cannot share C-band frequencies based on geographic separation alone. As commenters have explained, earth stations must be designed to reliably capture highly attenuated signals from satellites more than 22,000 miles away.<sup>9</sup> Accordingly, these facilities are extremely sensitive and highly vulnerable to terrestrial interference. Indeed, this is the reason why the FCC has historically required frequency coordination between satellite and point-to-point microwave users in this band. Significant separation distances, ranging from tens or, under extreme circumstances, even hundreds of kilometers, would be required to ensure that fixed and mobile terrestrial signals do not prevent reliable reception of satellite downlinks.<sup>10</sup> Mobile operations in particular cannot be authorized in the same frequency band as existing C-band operations because there is no reliable means of geofencing mobile users or mobile handsets from operation in exclusion zones.

Finally, in considering options for expanded fixed use of the C-band, the Commission should reject any proposal to eliminate or constrain its longstanding and highly successful full-band, full-arc earth station licensing policy, under which FSS earth stations may coordinate across the entire frequency band over the entire geostationary arc.<sup>11</sup> Preserving the longstanding flexibility that full-band, full-arc licensing provides is essential to broadcasters and other users that rely on satellite services. Because satellites are in orbit high above the earth, on-orbit equipment problems or failures cannot be repaired by a “truck roll.” Significant

---

<sup>9</sup> Comments of the Satellite Industry Association at 36, GN Docket No. 17-183 (Oct. 2, 2017).

<sup>10</sup> ITU-R S.2368, “Sharing studies between IMT-Advanced systems and geostationary satellite networks in the fixed-satellite service in the 3400-4200 and 4500-4800 MHz frequency bands,” available at: [https://www.itu.int/dms\\_pub/itu-r/opb/rep/R-REP-S.2368-2015-PDF-E.pdf](https://www.itu.int/dms_pub/itu-r/opb/rep/R-REP-S.2368-2015-PDF-E.pdf).

<sup>11</sup> NAB Comments at 4-5.

flexibility in both satellite choice and transponder frequency are absolute necessities to assure reliable operation.

As the Commission considers expanded use of the spectrum bands identified in this proceeding, NAB urges the Commission to require proponents of such expanded use to submit specific and detailed technical proposals for such expanded use. That is the only way to allow stakeholders to provide informed comments and analysis to guide the Commission's decision-making process.

Respectfully submitted,

**NATIONAL ASSOCIATION OF  
BROADCASTERS**  
1771 N Street, NW  
Washington, DC 20036  
(202) 429-5430

A handwritten signature in black ink, appearing to read "Rick Kaplan", with a long horizontal line extending to the right.

---

Rick Kaplan  
Patrick McFadden

Robert Weller

May 31, 2018